DOCKET NO.: THOM-0012 **Application No.:** 09/646,032

Office Action Dated: March 13, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-17. (canceled)

18. **(previously presented)** A field emission cathode comprising a polymer material forming a field emission surface.

19. **(previously presented)** The field emission cathode of claim 18 wherein said polymer material is a conjugate polymer material.

20. **(previously presented)** The field emission cathode of claim 19 wherein said conjugated polymer material is a substituted polythiophene.

21. (currently amended) A The field emission cathode of claim 19 comprising a conjugate polymer material forming a field emission surface, wherein said conjugated polymer material comprises a polyalkylthiophene.

- 22. (currently amended) The field emission cathode of claim <u>21</u> 19 wherein said conjugated polymer material comprises poly-3-octylthiophene.
- 23. **(previously presented)** The field emission cathode of claim 19 wherein said conjugated polymer material is formed as a polymer layer on a substrate.

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24. (previously presented) The field emission cathode of claim 23 wherein said polymer

layer is formed from a polymer solution including a solvent, which is distributed on said

substrate, said solvent being evaporated to leave behind said polymer layer.

25. (previously presented) The field emission cathode of claim 24 wherein said solvent is

evaporated under vacuum.

26. (previously presented) The field emission cathode of claim 24 wherein a surface of

said polymer layer includes voids which are formed by solvent evaporation.

27. (currently amended) The field emission cathode of claim 24 26 wherein said surface

of said polymer layer is shaped by use of a mould.

28. (previously presented) The field emission cathode of claim 27 wherein said moulded

surface of said polymer layer comprises a plurality of projections which promote field

emission.

29. (previously presented) The field emission cathode of claim 19 wherein said conjugated

polymer material is doped with an electron donor material.

30. (previously presented) A field emission display comprising:

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a field emission cathode comprising a conjugated polymer material forming a field emission surface;

a first anode separated from said field emission cathode such as to be capable of causing field emission therefrom;

a second anode positioned beyond said first anode; and

a luminescent screen, wherein electrons are selectively emitted from said field emission cathode under the influence of said first anode then accelerated onto said screen with sufficient energy to cause it to luminesce by said second anode.

- 31. **(previously presented)** A method of fabricating a field emission cathode comprising the step of forming a polymer layer comprising conjugated polymer material on a substrate, said polymer material forming a field emission surface of said field emission cathode.
- 32. (previously presented) The method of fabricating a field emission cathode of claim 31 further comprising the steps of:

distributing a polymer solution including a solvent on said substrate, and evaporating said solvent to leave behind said polymer layer.

33. (currently amended) A The method of fabricating a field emission cathode of claim
32 comprising the steps of:

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forming a polymer layer comprising conjugated polymer material on a substrate, said polymer material forming a field emission surface of said field emission cathode; and

distributing a polymer solution including a solvent on said substrate, and evaporating

said solvent to leave behind said polymer layer, wherein said solvent is evaporated
under vacuum.

- 34. (previously presented) The method of fabricating a field emission cathode of claim 33 further comprising the step of shaping the surface of the polymer layer by use of a mould.
- 35. **(new)** The field emission cathode of claim 21 wherein said conjugated polymer material is formed as a polymer layer on a substrate.
- 36. **(new)** The field emission cathode of claim 35 wherein said polymer layer is formed from a polymer solution including a solvent, which is distributed on said substrate, said solvent being evaporated to leave behind said polymer layer.
- 37. **(new)** The field emission cathode of claim 36 wherein said solvent is evaporated under vacuum.
- 38. (new) The field emission cathode of claim 36 wherein a surface of said polymer layer includes voids which are formed by solvent evaporation.

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- 39. **(new)** The field emission cathode of claim 38 wherein said surface of said polymer layer is shaped by use of a mould.
- 40. **(new)** The field emission cathode of claim 39 wherein said moulded surface of said polymer layer comprises a plurality of projections which promote field emission.
- 41. **(new)** The field emission cathode of claim 21 wherein said conjugated polymer material is doped with an electron donor material.